

Researching the Determinants of Vulnerability to HIV among Adolescents

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Adolescents in sub-Saharan Africa are exposed to diverse influences regarding lifestyles that are healthy and appropriate – running the gamut from their peers, the norms of community elders, to those of sophisticated global media campaigns. Although a multitude of programmes focusing on individual behaviour change among adolescents (aged 10–19) and young people (aged 15–24) have been imported from the North, the merit of such approaches in curbing the HIV/AIDS epidemic is questionable. Even those that are more home grown and attempt to incorporate traditional values have not proven effective enough. The large number of orphans and vulnerable children (OVC) programmes, on the other hand, consist primarily of mitigation approaches for young children (housing, food and education assistance) (Foster *et al.* 2005). Most do not recognise that the majority of orphans and children whose parents are HIV-positive or AIDS-unwell are in fact adolescents (UNAIDS 2004a), and have a great need for information and skills on sexual and reproductive health and development. These topics are frequently omitted from OVC programmes, as the subjects are culturally sensitive, awkward for implementers to deliver, and avoided by some donors. Images of innocent orphans needing charity do not ‘sync’ with the fact that these children are also emerging sexual beings. The links among OVC status, HIV risk and the need for social and economic support have not been made clearly enough. The young people who reside in households most affected by AIDS – which because of AIDS are also frequently poor and socially disconnected – are in fact the very same young persons for whom vulnerability to HIV infection is also high. Only a few recent research efforts (discussed below) make this crucial link. This article

brings together research findings to help elucidate these connections. Evidence on the gendered associations among poverty status, orphanhood, social capital and HIV risk for young people in sub-Saharan Africa will be highlighted and its implications discussed.

1 Young people, HIV and gender in sub-Saharan Africa

Of the estimated 39 million people living with HIV/AIDS worldwide, nearly one-third are aged 15–24 years (UNAIDS 2006). This group accounts for two-thirds of newly infected individuals in developing countries (UNAIDS 2004b). Over 63 per cent of persons living with HIV/AIDS reside in sub-Saharan Africa (UNAIDS 2006). Among those who have died of AIDS, approximately half became infected as 15–24 year olds (UNAIDS 2006).

In sub-Saharan Africa, 75 per cent of young people living with HIV are female (UNAIDS 2006). Population-based surveys from seven countries in this region indicate that young females are 2.7 times more likely to be living with HIV than their same-age male peers (WHO/AFRO 2002). A nationally representative survey in South Africa (Shisana *et al.* 2005) found that HIV prevalence among young people was 16.9 per cent for females and 4.4 per cent for males – a nearly four-fold difference. The gendered ratio of *new infections* among this age group was even more extreme at 8:1. Rates also varied significantly by locality type, with youths residing in urban informal settlements (slums) and rural formal settings (which are heavily populated by male migrant workers) having greatly elevated risk. While the report did not describe HIV prevalence for

young people by socioeconomic status *per se*, locality type serves as a rough proxy. The overall portrait indicates that in South Africa economically disadvantaged young black females residing in KwaZulu-Natal are at particularly high risk for HIV.

2 Poverty

Research exploring the effects of absolute and relative socioeconomic disadvantage on adolescent HIV risk in sub-Saharan Africa shows that being at the lower end of the socioeconomic spectrum is associated with a higher risk of unsafe sexual encounters among adolescents, especially, but not exclusively, for females. Using 1996 data from urban Kenya, Hargreaves *et al.* (2002) found that young women in the lowest socioeconomic status (SES) tercile had significantly younger age at first intercourse than those in the two higher SES terciles. In a gender-pooled analysis, Rwenge (2003) shows that relative socioeconomic disadvantage increases the odds of early sexual debut and of having multiple sex partners for young Cameroonians. In South Africa, Whitefield (1999) found that violence within the relationships of secondary school students is more common among those who are poorer. In urban Mozambique, Machel (2001) showed that female secondary school students in a working-class neighbourhood were much more likely to have received material support from their sexual partners than girls attending a middle-class secondary school.

Poverty and lack of family financial support are cited as primary reasons for young women to trade sex for goods or favours or to be involved in sexual relationships that involve financial support (Adams and Marshall 1998; Kelly and Parker 2000). In urban market-based settings, the need for cash increases the chances of selling sex (Gage 1998). Anecdotal evidence suggests that poverty and austerity measures have caused young women and mothers to turn to sexual transactions in order to obtain cash (Cohen 1998). Hunter (2002), in a study in rural KwaZulu-Natal, argues that it is the taken-for-granted nature of transactional sex that is the most crucial and poorly understood factor fuelling the spread of HIV, and that gendered material inequalities provide the basis for such transactions. He asserts that masculinities – constructed through historically rooted practices and structural factors – are also central.

HIV prevalence in Africa does not directly correspond with *per capita* income levels. In fact, countries with

greater average income have higher HIV levels. What is not discussed, however, is that countries with high HIV prevalence also have extreme levels of income inequality. All seven countries in the world with adult HIV prevalence of 20 per cent or greater (all located in southern and eastern Africa) have very high Gini indices (UNDP 2006). Using a random sample of young people in KwaZulu-Natal, Hallman (2005) found that for both females and males, residing in a lower wealth household was associated with younger age at sexual debut and lower odds of discussing safe sex practices with recent sexual partners. Among females only, low relative wealth was correlated with lower chances of using a condom at last sex, and higher odds of exchanging sex for money or gifts, experiencing non-consensual sex, and having multiple sexual partners in the year before the survey. Using these same data but limited to the sub-sample of 14–18-year-olds and with controls for social capital added to the list of sociodemographic covariates, Hallman (2008a) shows that household wealth (number of physical assets) had a statistically significant inverse association with female risk behaviours, but household income/expenditure poverty did not. Greater relative household wealth was positively associated for adolescent females with later age at sexual debut and lower chances of ever having experienced non-consensual sex. Using data on 15–49 year olds (not age disaggregated), Mishra *et al.* (2007) show that while in some countries wealth and HIV status are positively related in bivariate comparisons, in multivariate analysis with controls added, relative wealth (quintile index) and HIV prevalence are not statistically significantly related. Wojcicki's (2005) review of the relationship between SES and HIV in adult women in Southern, Central and Eastern Africa shows mixed evidence. She finds overall that increasing women's access to resources may have initially little effect on risk-taking behaviours, but in southern Africa where *per capita* incomes are higher and inequalities are greater, increasing female SES may decrease female HIV risk. She also asserts that the male sexual partner's SES may in fact be a stronger predictor of female HIV serostatus than female pre-partnership SES.

3 Orphanhood

Although child fosterage has a long history in Africa, HIV is altering the rates and nature of such arrangements (Madhavan 2004). AIDS-related mortality among prime-age adults in most countries

in the region is on the rise, and hence, levels of orphanhood are increasing (UNICEF 2007). This situation is likely to contribute to the vulnerability of already complex family arrangements (Foster 2000). Parental death is recognised as one of the most stressful life events a child or adolescent can endure – and it increases the risk for behavioural problems (American Psychiatric Association 1994). Research in the USA has demonstrated that children experiencing parental death have unusually high rates of depression (Siegel *et al.* 1992; West *et al.* 1991), with more than one-third meeting criteria for psychiatric disorders (Sanchez *et al.* 1994; Siegel *et al.* 1996). Furthermore, many engage in behaviours such as early and unprotected sex to a higher degree than non-parentally bereaved adolescents (Hudis 1995). These risks may be exacerbated when parental morbidity and subsequent death are characterised by AIDS symptoms, as fear of disclosure of the disease often trumps the need for social support and leads to social isolation. This can be particularly damaging to the healthy development of adolescents during a life stage when parental guidance is necessary for proper social and emotional maturation (Lester *et al.* 2006). Positive parent–child interaction has been linked to delays in the onset of sexual activity and lower rates of sexual risk taking in both US minority populations (Miller *et al.* 1999; O’Sullivan *et al.* 1999) and in developing countries (Babalola *et al.* 2005; Marques and Ebrahim 1991). In the absence of one or both parents, particularly the same sex parent, positive role modelling and effective communication about sexuality and sexual behaviours is often missing (Perrino *et al.* 2000). Psychosocial support, monitoring and supervision of adolescent activities are also lower (Barber *et al.* 2005). Parental death has been shown to lead to low perceived self-efficacy among young people, which is associated with feeling a lack of control over one’s sexual health and higher sexual risk-taking behaviours (Gregson *et al.* 2004). Cluver and Gardner (2007) review the mental health of children orphaned by AIDS and conclude that outside of the USA, there is very little evidence of higher rates of behavioural problems among AIDS-affected children, but that internalising problems are common among this group in sub-Saharan Africa. A study with 1,050 adolescents in South Africa that used validated psychological instruments found that AIDS-orphaned children had rates of clinic-level psychiatric disorders well above non-orphans, other orphans and Western norms (Cluver and Gardner 2007).

Several recent studies have explored the relationship between orphanhood and HIV risk among young people in Southern Africa. A study in eastern Zimbabwe (Gregson *et al.* 2005) indicated that orphaned females aged 15–18 years, especially those who had lost a mother, had significantly higher HIV infection rates than non-orphaned females; orphan status was not associated with higher rates of HIV infection among males, where the sample was limited to 17–18 year olds. Another study in Zimbabwe (Birdthistle *et al.* 2008) of girls aged 15–19 showed that orphaned never-married girls were more likely than non-orphaned girls to have ever been pregnant and to test positive for HIV and HSV-2 (herpes simplex virus). Although not a population-based study, a review of HIV and child labour conducted by Rau (2003) in Tanzania and Zambia finds that the majority of young commercial sex workers surveyed were in fact orphans. Thurman *et al.* (2006) investigated the effect of an orphan status indicator on sexual debut among 14–18 year olds in KwaZulu-Natal and found that orphans were almost 1.5 times more likely to have already had sex than non-orphans. The analysis controlled for, but did not stratify by gender. Using a nationally representative survey of young people aged 15–24 in South Africa collected in 2003, Operario *et al.* (2007) studied the association between orphanhood (also using an indicator of one or both parents deceased) and (a) sexual behaviours, and (b) HIV sero-status. Adjusting for other sociodemographic factors, parental death among females was significantly associated with HIV-positive status, ever having had sex, and having one or more sexual partners in the year before the survey. Among males, parental death was significantly associated with ever having had sex and having unprotected sex at the last episode.

Hallman (2004) investigated the effects of orphan type on the sexual experiences of 14–24-year-olds in KwaZulu-Natal and found, after adjusting for other sociodemographic factors, that female and male paternal orphans debuted earlier sexually, female paternal orphans had older sex partners, and male paternal orphans had lower odds of practising secondary abstinence (refraining from intercourse, though sexually active in the past). Female and male maternal orphans had lower chances of discussing safe sexual practices with their most recent sexual partner. With data from the same survey, but focusing exclusively on 14–18 year olds, Hallman (2008a) finds that orphanhood is more highly

associated with male than with female sexual risk behaviours. Double-orphaned male adolescents were more likely to have ever had sex compared with non-orphans and their first sexual experiences were much more likely to be non-consensual. Paternal orphans, on the other hand, were less likely than non-orphans to have had multiple sexual partners in the year before the survey. Among young males who had had sex in the year before the survey, maternal orphans were less likely than non-orphans to have used a condom at their last sexual encounter. Using longitudinal data from KwaZulu-Natal, Hallman (2008b) examines the effect of orphan type (maternal, paternal, or double) on the sexual debut of young aged 14–22 at baseline. She finds that, other factors being equal, losing a mother or a father in the two years between survey rounds hastens sexual initiation for girls. Among boys, the death of a father, but not a mother, was associated with greater odds of sexual debut between survey rounds.

Other research from Africa investigates the consequences of parental illness and death on education – mainly of primary school age children – and finds that maternal death has large and persistent effects on school attendance and educational attainment. This is relevant for HIV risk in light of Lloyd's (2007) cross-country results from Demographic and Health Survey (DHS) data showing that non-enrolled adolescent girls are more vulnerable to sexual and reproductive health risks. Parental morbidity and death have the potential to affect not only child education, but also lessen the ability of families to provide the protective support structures to *adolescents* as they mature sexually. Young people may have to take on extra care-giving roles and may consequently perform poorly in school, drop out, or be withdrawn from school altogether (Hartell and Chabilall 2005). Both Ainsworth *et al.* (2005) and Evans and Miguel (2007) find that reductions in school attendance occurred before the death of a parent.

4 Social capital

Another structural factor likely to influence young people's sexual health and development is social capital. The studies on this topic focus almost exclusively on voluntary membership in community groups and show mixed and inconclusive results, with significant gender differences. A study by Gregson *et al.* (2004) in Zimbabwe among young women aged 15–24 revealed that membership in

various types of voluntary community groups had a range of associations with being HIV sero-negative. With other factors controlled for, young women with secondary education who belong to a (well-functioning) community group had lower HIV prevalence than those who did not belong to such a group. This was particularly the case for membership in youth, women's and church groups. For women without any secondary education, on the other hand, HIV avoidance was, while positively related to youth group membership, in fact negatively related to membership in political parties. Using data from KwaZulu-Natal, Kaufman *et al.* (2004) assessed the influence on sexual risk of voluntary community group membership (sports, religious, and an aggregated 'other types' category) and found that in communities where young people had high rates of participation in sports activities, girls had decreased odds of recent sexual activity, but boys had significantly lower chances of having used a condom at last sex. In a different part of South Africa, Campbell *et al.* (2002) examined the association between adult and adolescent membership in voluntary organisations, HIV-related risk behaviours and HIV sero-status. They find a range of significant results, varying by age and gender, but not all were in the direction hypothesised. Young women (aged 15–24) belonging to sports clubs were less likely to be HIV-positive and more likely to use condoms with casual partners than non-members. Among members of voluntary savings clubs (*stokvels*), young females were more likely to have a casual partner, and both young men and women (aged 15–24) were more likely to drink alcohol than non-members. Camlin and Snow (2008) use the Cape Area Panel Study (CAPS) from South Africa to assess the effects of voluntary community group membership on condom use at first sex and condom use at most recent sex among 14–22 year olds in Cape Town. Controlling for other factors, their results (though regrettably not gender stratified) reveal that belonging to a voluntary community group is associated with higher odds of condom use at both first sex and last sex.

Hallman (2008a) examines the effects of individual voluntary group membership and community level trust and reciprocity on the gendered sexual health behaviours of adolescents in KwaZulu-Natal. Social cohesion was measured using responses to questions posed to each adolescent about her/his perceptions of trust and reciprocity in her/his community.

Summary statistics show that boys generally tend to report feeling more 'included' in their communities than do girls. Boys are particularly more likely to report having many friends in the community, that they feel safe moving about in the community, and that trust among neighbours is high. These individual trust and reciprocity measures, and then a constructed index, were used in alternative regression specifications. With the index, a more cohesive community was associated with lower chances of male first sexual experience being non-consensual. When trust and reciprocity measures were entered as individual variables, a high perceived level of crime was correlated with greater chances of female first sex being non-consensual. Furthermore, greater levels of perceived trust among neighbours were correlated with lower odds of girls experiencing non-consensual sex. Having more friends was associated with lower odds of young male first sex being non-consensual (possibly through protection from coercion by older males), while a high level of crime was associated with lower chances of having multiple sexual partners in the year before the survey.

Although no other studies from sub-Saharan Africa were found to compare these results, significant relationships between social capital and adolescent HIV and sexual health risk behaviours have been documented in the USA. Browning *et al.* (2004) study the effects of community cohesion on adolescent sexual behaviours using multi-level data from Chicago. With a set of survey questions similar to those in the Hallman (2008a) study, this study revealed that higher levels of neighbourhood trust and reciprocity – referred to by the authors as 'collective efficacy' – contributed to a delay of sexual onset among adolescents. The reasoning provided was that neighbourhood structural disadvantage (economic insecurity, insecure housing tenure, and a high proportion of recent immigrants) inhibits the formation of social capital, which in turn reduces the ability of local residents to mobilise around neighbourhood goals, including the effective supervision and socialisation of children and teenagers. This analysis did not disaggregate adolescents by gender, but is consistent with that of Youngblade *et al.* (2006), who found that community investment in social capital in Florida predicted lower levels of risky sexual behaviours among adolescents.

In the study of adolescents in KwaZulu-Natal,

Hallman (2008a) also explored the effects of voluntary community membership, finding that boys were more likely than girls to belong to voluntary groups. One-third of female and one-quarter of male respondents did not belong to any group. Males were most likely to belong to a sports group, whereas female involvement was greatest in religious groups – according to Mensch *et al.* (1998), both of these would be indications of gendered social role norms during adolescence. Belonging to a voluntary community group had greater effects on girls' than boys' risks. Multivariate findings suggest that membership in a variety of groups was associated with lower risk for females. Girls in sports, study and religious groups had later age of sexual onset; those in savings, sports and religious groups were less likely to have experienced non-consensual sex; those in sports groups had 11 times higher likelihood of using a condom at last sex than girls not in a sports group. The only significant group factor for males was membership of a dance, music or choir group, and this was associated with greater odds of early sexual debut. While these results are instructive, it is important to consider the possibility of mediating factors between inclusion in organised groups and protection from HIV – such as parental encouragement, having enough free time from domestic responsibilities, not being stigmatised, etc.

5 Discussion

Overall, the sum of evidence presented indicates that among young people in sub-Saharan Africa, poor girls, orphaned girls and boys, and socially excluded girls are the most likely to be subject to social environments that render them vulnerable and engender high-risk sexual behaviours. Specifically:

- Orphaned adolescents display higher sexual risk taking, which provides a strong argument for linking OVC programmes with adolescent prevention.
- This sexual health risk to orphans is gendered – both by adolescent sex and by the sex of the deceased parent. Both social protection and adolescent prevention programmes need to be carefully tailored to the gender of the orphans themselves and be sensitive to whether the parent lost is of the same or opposite sex.
- Adolescent girls affected by both orphaning and poverty are particularly vulnerable and at risk. This suggests that social protection for poor families should be concerned about orphans – particularly

girls – and be linked to prevention programmes to empower them in terms of sexual awareness, control, and economic and social asset building.

- The vulnerability of girls is moderated and mitigated by social participation, inclusion in groups (which might be compromised by HIV stigma), and more cohesive neighbourhood environments. This calls for going beyond a simple focus on strengthening families economically, for a more structural analysis and for social protection and prevention to link to the extra-household sphere – particularly as the transition to adulthood involves a process of gradually leaving home.

Given that young people constitute a high proportion of the African population, programmes need to be designed to address these specific vulnerabilities and effectively target appropriate gender, age, and sociodemographic subpopulations most in need. Current programmes are either not reaching, or if reaching, are not providing sufficient social, health and economic protection strategies for these groups of young people. Interventions must

adopt a more ecological approach and focus on the gendered economic, social, political and cultural determinants of sexual practices (Bruce and Hallman 2008). They must recognise that certain sexual behaviours – which may be viewed as negative by outsiders and/or public health specialists, and, which may bring negative health consequences in the long-run – are frequently not subject to choice (especially among girls). Even where choice is not the constraint and behaviours are consensual, interventions must recognise that these may bring great social, economic and psychological benefits to young persons, which outweigh perceived health risks. Sexuality is a natural aspect of the transition to adulthood and adolescent programming intended to address HIV risk should therefore offer stronger forms of social and economic support in order to build individual, family and community resilience for responding to HIV and AIDS, including coping with the loss of a parental figure or dealing with social and economic stresses from illness and stigma (DiClemente *et al.* 2005; Campbell *et al.* 2005; Hsu *et al.* 2002).

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